



Atty. Docket No.: 15675.P322

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

C. Chappert

Application No.: 09/600,546

Filed: 7/12/00

For: **MAGNETIC ETCHING
PROCESS, ESPECIALLY FOR
MAGNETIC OR MAGNETO-
OPTIC RECORDING**

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Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

RESPONSE TO OFFICE ACTION

Dear Commissioner:

This is in response to the outstanding Office Action mailed November 14, 2003.

In the Action, claims 1-6, 9-11, 14 and 17-19 are rejected under 35 U.S.C. 112, first paragraph, the Examiner taking the position that the limitation excluding ions of more than 16 AU atomic masses is unsupported by the specification. The Examiner contends the specification is devoid of any such teaching and referring to the portion of the specification cited by Applicant in this regard on page 4, lines 25-27, the Examiner contends recites "magnetic material (comprising a few atomic planes) is controllably irradiated in order to locally modify . . . "

In response, submitted herewith is a copy of page 4 from the specification wherein lines 25-27 have been highlighted containing language essentially identical to that which was added by amendment in the prior Office Action to claims 1 and 14.

Applicant has attempted to locate the portion of the specification quoted by the Examiner at page 2 of the Action but has been unable to identify any such portion.

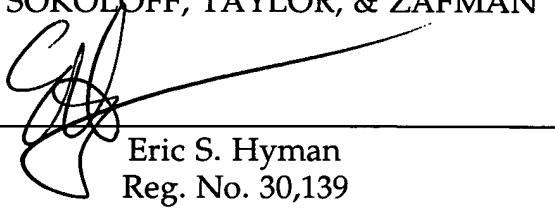
In view of the foregoing and since the specification clearly supports the amendments presented in response to the prior Office Action, reconsideration and withdrawal of the rejection under 35 U.S.C. 112, first paragraph, is requested. Additionally, it is requested that the finality of the present Action be withdrawn since there is no basis for the rejection under 35 U.S.C. 112, first paragraph, as asserted in the Office Action.

If there are any fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN

By: _____

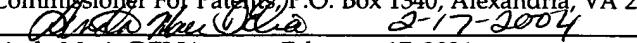
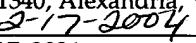

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Dated: February 17, 2004

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class Mail, With Sufficient Postage, In An Envelope Addressed To: Mail Stop Amendments, NON-FEE, Commissioner For Patents P.O. Box 1340, Alexandria, VA 22313-1450


Linda Marie DELIA 
February 17, 2004

ESH/lmd

However, in the current published work, these various techniques have several drawbacks:

1. Whatever the technique adopted, recording in contact mode will require a material having a low and controlled surface roughness: the etched materials proposed up until now will therefore require a final, and probably difficult, planarization step.
2. In the case of near-field magnetooptic recording, sudden variations in optical index (variations in reflectivity) of the etched material will give diffraction effects, which may be manifested by much greater polarization variations than those induced by the magnetic domains - a source of unacceptable noise.
3. A final problem, at very high densities on these etched materials, concerns the following of the track, and it will probably be necessary to develop a specialized "track" for this purpose, but without degrading the points mentioned above.

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PRESENTATION OF THE INVENTION

The subject of the invention is a process for writing on a material, in which said material is irradiated by means of a beam of light ions (that is to say ions having a mass less than 16 units of atomic mass, such as for example He^+ ions), said beam of light ions having an energy of the order of or less than a hundred keV. This process is characterized in that this material comprises a plurality of superposed thin-layers, at least one of the thin layers being magnetic and in that one or more regions having sizes of the order of 1 micrometer or less are irradiated, the irradiation dose being controlled so as to be a few 10^{16} ions/cm² or less, the irradiation modifying the composition of atomic planes in the material at one or more interfaces between two layers of the latter. The magnetic properties of said material, such as, in